

**March 3, 2016**

## **SCOPE OF WORK**

### **MMU Path Segment 2 Jericho STP BP15(10)**

#### **PURPOSE OF CONTRACT**

The Town of Jericho will retain the services of a VTrans qualified consultant engineering firm to provide engineering services as needed to prepare contract plans, specifications and a construction cost estimate as detailed below for the project outlined in the project description section.

#### **PROJECT DESCRIPTION**

The Town of Jericho proposes to construct a multi-use path connecting Jericho Center with Mount Mansfield High School. These two destinations are approximately one mile apart and are connected by Brown's Trace Road.

In 2011, VHB completed a feasibility study for a multimodal connection between Jericho Center and Mount Mansfield Union High School. The study identified possible constraints, presented advantages and disadvantages for several alternatives. The study breaks the project into four segments: Segment 1, from MMU High School to Ethan Allen Road; Segment 2, from Ethan Allen Road to Pratt Road; Segment 3, from Pratt Road to Plains Road; and Segment 4, from Plains Road to the existing sidewalk in Jericho Center. Construction of segments 3 and 4 was completed in the fall of 2015.

This project and proposed scope of work relate to the second phase of the overall project: Segment 2 which will run from Pratt Road to the Ethan Allen Road.

- Segment 2 – The 2011 feasibility study identified three alignment options for segment 2. Deciding which option to pursue will take careful consideration of the constraints each option poses as well as the associated costs. Please refer to the 2011 study prepared by VHB for a detailed description of the options

#### **DEVELOPMENT OF THE PROJECT**

Project development will be based on the 2011 feasibility study referred to in this document, as well as feedback from the public participation process. Excerpts from the feasibility study are attached to this document. This contract will be developed according to the Municipal Assistance Bureau ("MAB") Project Development Process and as described below.

**PHASE A** – Participate in the pre-design conference and local concerns

meeting. Develop purpose and need statement. Complete project alternatives investigation and participate in the alternatives presentation meeting. Prepare conceptual plans, participate in the public informational meeting and complete the Environmental Document.

**PHASE B** - Complete required permitting, all permitting re-evaluations, subsurface investigations, utility agreements and clearance, final design plans, contract plans, cost estimate(s), project specifications and special provisions, bid documents and the bid analysis. **PLEASE NOTE THE FOLLOWING:**

- 1. The selected consultant will be responsible for the development of the draft and final right-of-way plans and acquisition documents. Consultant will also be responsible to make any necessary adjustments to these right-of-way plans and documents.**
- 2. Property owner visits, appraisals, deeds, negotiations and acquisition services, if needed, will be negotiated under an amendment or separate contract.**
- 3. Review of Appraisals will be performed by the VTrans Right-of-Way Section.**
- 4. VTrans will provide the right-of-way clearance certificate.**

**PHASE C** - Provide miscellaneous design engineering services during construction. The project design engineer will **not** be allowed to perform the construction inspection services unless the final construction estimate is below \$250,000.

The Town reserves the right to re-negotiate the contract to have the design engineer perform the construction inspection services should the raw construction estimate be under \$250,000.

The Consultant shall maintain continuous contact with the Municipal Project Manager (MPM). The Consultant shall have an active role in the processes of public participation and coordination. The Consultant may be required to attend additional meetings with the MPM, Town officials and property owners, as circumstances require.

**PHASE A – PROJECT DEFINITION****A. Predesign Conference**

1. The Consultant shall organize and facilitate a Pre-Design Conference prior to the project survey and conceptual design. Attendance shall consist of the MPM, the Town Manager, Town and Town public works personnel, a representative from the selected consultant and the MAB Project Supervisor. This meeting will allow all interested parties to gain an understanding of the context of the project and allow for the refining of the location of alternatives identified by the consultant prior to survey.

**B. Survey Information**

1. The Conceptual Plans include all surveys completed to date including a survey of existing topography as required for development of the plan, profile and cross sections. Additional survey may be necessary to delineate boring locations for subsurface studies, the right-of-way process and any other necessary delineation such as for wetlands, archaeological or historical sites.

2. The Consultant shall be responsible for project coordination with affected property owners. Contact with all property owners will be established before survey commences. The Consultant shall draft a letter for signature by a representative of the Town. This letter will introduce the Consultant's surveyor to the property owner. The Consultant shall also provide the Town with a list of all personnel who will be involved in any field activities.

**C. Purpose And Need**

1. The Consultant shall prepare a Purpose and Need Statement. The intent of this statement is to define and justify the project. This statement is the basis of all proposed alternatives.

**D. Combined Local Concerns and Alternatives Presentation Meeting**

1. The Consultant shall organize and facilitate a local concerns and an alternatives presentation meeting. The project definition process will be explained in general terms, a summary of the identified problems and/or conditions will be presented and comments/concerns relative to the proposed project will be sought. Any comments and/or concerns arising from this meeting are meant for consideration when proposing a purpose and need statement and corrective course of action. Consultant shall be responsible for the meeting summary.

2. Before a preferred course of action can be approved by VTrans, alternatives must be investigated. Possible alternatives must include the “no build” alternative. The Consultant shall prepare an Evaluation Matrix identifying

general concerns, engineering details, resource impacts and permits related to each alternative. A Preferred Alternative shall be selected and recommended by the consultant based on all the information presented thus far. The Preferred Alternative shall be identified with a clear explanation as to why it is "preferred". Endorsement of the consultant's recommendation is to be made by the Town before undertaking design work.

#### **E. Conceptual Design**

1. The Conceptual Design is based on a three-dimensional survey and will include, but is not limited to, typical sections, cross sections (as appropriate), grade lines and traffic control.
2. Once appropriate elements have been included, the plans, supporting documentation and construction cost estimate shall be submitted to the Town and VTrans for review and comment.
3. The selected consultant shall calculate the area of disturbance from the footprint of the project and request a jurisdictional review/opinion from the ACT 250 Coordinator.

#### **G. Design Criteria and Considerations**

1. All design must be in accordance with Vermont Agency of Transportation (VTrans) Standard Specifications for Construction (2011), the Vermont Pedestrian and Bicycle Facility Planning and Design Manual, all applicable VTrans design standards and general special provisions, Specifications for Contractor Services dated June 2014, applicable guidelines of the Americans with Disabilities Act (ADA) as well as any other appropriate standards and specifications.
2. All measurements are to be expressed in English units.
3. The Consultant will provide full and half-size prints of project plans as required for submittal. Consultant will also provide VTrans with PDFs of the full submittal.
4. The Consultant shall be responsible to obtain any waivers of design criteria that are required.
5. Standard drawings and standard design details are available from the VTrans web site. If requested by the Consultant, VTrans may provide pertinent data using digital formats. Files transferred to consultants may not be sold or transferred to others without written approval from VTrans.
6. The Consultant will contact the MPM for any additional information

or details that may be required in order to develop the plans including, but not limited to: water, sewer, other buried utilities and existing right-of-way along the project alignment.

7. The Consultant shall give careful consideration during final design to the following:

- (a) adequate drainage/stormwater treatment
- (b) relocation of existing utilities
- (c) Avoiding and minimizing environmental impacts, including but not limited to, agricultural land, recreational land, fish and wildlife habitat, wetlands, historical, archeological and water quality. Mitigation strategies shall be designed to offset impacts, as needed.
- (d) impact on residential and commercial property to include issues of access to private and public property.
- (e) landscaping
- (f) erosion and sediment control plans (designer and contractor checklists) related to NPDES. The erosion and sediment control plans may need to address certain stormwater related issues.
- (g) aesthetic and visual quality
- (h) availability of construction funds

## **H. Environmental Document**

1. The Consultant shall obtain **ALL** permits necessary for the project including, but not limited to, the following: Categorical Exclusion (NEPA document), Corps of Engineers Permit, VANR Conditional Use Determination (CUD), Stream Alteration Permit, 401 Water Quality Certificate, Historic & Archaeological clearances and Stormwater related permits.

2. The Consultant shall incorporate all conditions and requirements stipulated in the environmental permits.

3. Once the Environmental Document is completed and signed by the person preparing it, it and all supporting documentation will need to be submitted to the MAB Project Supervisor. It will then be forwarded to the VTrans Environmental Section for their review and concurrence.

## **PHASE B – PROJECT DESIGN**

### **A. Complete Required Permitting**

The Consultant will be required to obtain **ALL** the necessary permits for the project and to perform all the necessary re-evaluations.

### **B. Subsurface Investigations**

The Town recently installed a water line along a portion of the proposed alignment on north side of School Street and may be able to provide some data on existing subsurface conditions.

### **C. Utility Considerations**

1. The Consultant shall submit project plans to each affected utility company with a request to provide relocation routing to the Consultant within a two month period.

The electric utility within the project area is the Vermont Electric Cooperative, 42 Wescom Road, Johnson, VT (802) 635-2331.

2. The Consultant shall review and coordinate the relocation routes submitted by the various utility companies. If it is determined that the utility companies are eligible for reimbursement or if a utility agreement is necessary, the Consultant shall provide the Town with the necessary information for processing a utility agreement.

### **B. Right-of-Way Acquisition**

1. The selected consultant will be responsible for the development of the draft and final right-of-way plans and acquisition documents. Consultant will also be responsible to make any necessary adjustments to these right-of-way plans and documents.

2. Property owner visits, appraisals, deeds, negotiations and acquisition services, if needed, will be negotiated under a separate contract.

3. Review of Appraisals will be performed by the VTrans Right-of-Way Section.

4. VTrans will provide the right-of-way clearance certificate.

### **C. Final Design**

1. The Consultant will develop 85% Final Plans based on the approved Conceptual Plans or Preliminary Plans.

2. The Consultant will submit plans showing temporary erosion and sediment control measures to be taken during construction. The plans will be developed using the conceptual/preliminary plans as a base, and will illustrate the placement of silt fence and other temporary erosion control features. The plans will contain any special notes or guidance required in the use of these features during construction. An itemized list of temporary erosion control pay items will appear on the project quantity sheet.

3. All conditions required for permits or changes necessitated as a result of the right-of-way process or required by ACT 250 (if needed) will be included in the Final Plans submittal. The Consultant will be responsible for providing a representative at all ACT 250 hearings to provide testimony that may be required. **Please note that ACT 250 may not be required.**

4. The Consultant shall complete the Specifications and Special Provisions package. Any deviation from VTrans Standard Specifications for Construction shall require the development of a special provision which clearly defines the work to be performed and the method of payment for same.

5. The Consultant shall complete an itemized construction cost estimate in Estimator format at each plan submittal phase.

6. Deliver five (5) sets of specifications and full size 100% Contract plans to the Town for bidding purposes. The Consultant shall also deliver one set of half-sized plans (11" x 17") to the Town, the MPM, and MAB along with PDFs of the full submittal.

#### **D. Contract Plans**

1. The Consultant shall submit contract plans that consist of the revised Final Design Plans, all Special Provisions (project specific provisions or requirements) developed through Final Design and two copies of a final engineering estimate. The Consultant will assemble the bid documents.

2. The Consultant, in coordination with the MPM, shall answer questions and provide further clarification of their design and estimates during the processing of the project for advertising and the letting of the bid. In the event the Town decides to hold a pre-bid meeting, the Consultant will be required to attend that meeting. Changes to the plans, estimate or any Special Provisions during this stage, if required, will be performed by the Consultant. During this phase of the process, any design considerations identified as not being fully subject to VTrans Standard Specifications for Construction shall require the development of a special provision which clearly defines the work to be performed and the method of payment for same.

3. Subsequent to the project's bid opening, the MPM will provide the

Consultant with a listing of the unit price bids for the project. The Consultant shall examine the unit bid prices of the apparent low bid for reasonable conformance with the final engineering estimate. This examination should assure that any large variations would not result in an advantage to the contractor with a corresponding disadvantage to the Town and/or VTrans. The analysis, which should be in narrative format and contain a recommendation regarding the contract award, must be received by the Town/MPM within three working days of the Consultant's receipt of unit bid prices.

4. Upon notification by the MPM that the construction contract has been awarded, the Consultant shall transmit all project correspondence, calculations and survey notes to the MPM. The Consultant shall retain copies of these materials for their use during the next step, Design Engineering Services during Construction.

### **PHASE C – CONSTRUCTION**

#### **A. Consultant Availability**

1. The Consultant shall attend and participate in the preconstruction conference.

2. The Consultant shall answer any questions that may arise relative to the design of the project during construction, shall provide appropriate clarifications and shall participate in decisions relative to field changes. It is anticipated that most questions will be answered via telephone or in writing. However, the Consultant shall be required to visit the site, when requested by the Town or MPM, to investigate and address design issues. For proposal development, the Consultant shall assume three site visits. The field contact person will be the Resident Engineer.

#### **B. Construction Services**

1. The design Consultant shall be responsible for making any necessary design changes as required by unanticipated field conditions. Additional work resulting from unanticipated field conditions will be reimbursed on the basis of hourly labor rates provided in the cost proposal. However, the Consultant, at no cost to the Town or VTrans, will perform any design changes that result from errors or omissions in the original design plans.

2. The design Consultant shall be responsible for the review and approval of shop drawings for items requiring submission for the project. The Consultant shall check all shop drawings in accordance with VTrans Manuals.

3. The design Consultant will **not** be allowed to provide construction inspection services for this project unless the construction estimate is below



\$250,000 – see note above on re-negotiating the contract to provide these services. The design Consultant will be required to participate in the Final Inspection of the project.

4. The design Consultant shall be responsible for any field engineering required due to flaws, inconsistencies or oversights of the contract plans, specifications or special provisions.

5. The Consultant's obligation for work on this project shall terminate upon signing of the final requisition by the contractor.